Chapter 7: Implementation

Some of the following material is drawn from the General Accounting Office (GAO) document GAO/AIMD-10.1.14, *Year 2000 Computing Crisis: An Assessment Guide*.

7. 1. Purpose

Not all system components will be converted or replaced simultaneously. Agencies can expect to operate in a heterogeneous computing environment comprised of a mix of Year 2000 compliant and non-compliant applications and system components. The reintegration of the Year 2000 compliant applications and components into the agency's production environment must be carefully coordinated to account for system interdependencies.

Effectively planned contingency implementation is required which includes the following steps:

- Define transition environment and procedures,
- Develop implementation schedule,
- Resolve data exchange issues and interagency concerns,
- Develop contingency plans, and
- Update or develop disaster recovery plans.

7. 2. Define Transition Environment and Procedures

The transition from the current environment to Year 2000 compliant systems will be difficult and complex. First, some key components of the agency systems—Year 2000 compliant databases, operating systems, utilities, and other Commercial Off-The-Shelf products—may not be available until late 1998 or early 1999. Second, external data suppliers may not plan to complete their conversion and testing until 1999. Third, the testing, validation, and correction processes may take much of 1999. Fourth, replacement systems may not be ready for testing until late 1999. As a result, agencies may be forced to operate—at least for a time—in a hybrid and duplicative environment.

7. 3. Develop Implementation Schedule

The Year 2000 implementation schedule must not only deal with uncertainties common to all large system development efforts, but also should indicate all major milestones and the critical path for the completion of the Year 2000 program.

The event horizon for changes must be tracked and monitored. The event horizon is the last date changes can be started if a system needs to be fixed. In those cases where a system is to be replaced or dropped, that decision needs to be verified before the event horizon. If the system is not really going to go away, changes have to be made.

7. 4. Resolve Data Exchange Issues and Interagency Concerns

All data issues and interagency concerns must be resolved prior to acceptance testing and implementation.

This includes ensuring that:

- ➤ All affected business partners are notified,
- ➤ Data bridges and filters are ready to handle non-conforming data,
- ➤ Contingency plans and procedures are in place if data are not received from an external source,
- ➤ Contingency plans and procedures are in place if invalid data are received from an external source, and
- ➤ The validation process is in place for incoming external data.

7. 5. Develop Contingency Plans

Unlike routine system development or maintenance efforts where schedule slippages are non-fatal—and common—the Year 2000 program must be completed on time. Contingency planning is needed and events need to be closely monitored. The emphasis has to be on assuring continuity.

7. 6. Update or Develop Disaster Recovery Plans

All critical HUD systems which are Year 2000 compliant—including converted and replaced systems and related databases—should have disaster recovery plans developed or updated with new code and procedures for the restoration of operations and data in case of extended outage, sabotage, or natural disaster.

7. 7. Data Conversion

Data conversion and file formatting has to be carefully scheduled and coordinated. Files are often used in several places. Bridges may be used to convert to or from the old format.

The conversion of data and changes to ECL or JCL to use bridges has to be coordinated. This all has to be done in a short window.

The timing of the conversion must not interfere with production tasks. A safety margin is also needed to make sure it is possible to fall back to the previous formats.

7. 8. Installation

Once the planning is done, the actual installation of the compliant code can be performed. All programs and runs or jobs using the files and/or databases have to be altered at the same time. This step is defined by the planning performed in the previous items. At this point, the plans are executed.

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